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CERTIFICATE

This certificate is issued in support of an application for Patent registration in a country outside New Zealand pursuant to the Patents Act 1953 and the Regulations thereunder.

I hereby certify that annexed is a true copy of the Provisional Specification as filed on 11 June 2002 with an application for Letters Patent number 519453 made by IPTECH LIMITED.

Dated 27 June 2003.

Neville Harris

Neville Harris
Commissioner of Patents



Patents Form

NEW ZEALAND

PAT 4.



PATENTS ACT 1953
PROVISIONAL SPECIFICATION

(a) HIGH TEMPERATURE AUTOMATIC DISPENSER

(b) We, Iptech Ltd, of Auckland, New Zealand, a New Zealand company, do hereby declare this invention to be described in and by the following statement:

(c) This invention relates to the method of dispensing an aerosol in a fine mist using an inventive development that is incorporated into an automatic aerosol dispenser that will permit the said automatic aerosol dispenser to continuously operate at higher temperatures.

Therefore, it is an object of the present invention to provide an improved effectiveness of liquid agricultural chemicals and or essential oils, used for both repelling and or destroying insect pests.

The invention provides an intermittent, low dosage, presence of a range of these chemicals into the atmosphere outside of a contained building.

The existing automatic aerosol dispenser referred to in this patent application becomes defective at higher temperatures, and the invention described in this patent enables the said automatic aerosol dispenser to operate effectively up to 75 degrees centigrade.

The novel feature of this is an automatic dispenser that incorporates a locking metal solenoid cover. This differs from known prior art.

It is a further objective of the present invention to overcome some of the disadvantages of the prior art material and methods of manufacture and/or at least provide the public with a useful choice.

Accordingly, in the first aspect, the invention may broadly be said to consist of an automatic aerosol dispenser device as shown in Figure 1. This dispenser may have cylindrical (as shown) or square or rectangular outer walls, a pressure fluid inlet and outlet, a solenoid valve assembly, an electronic circuit board designed to actuate the said valve and a battery to energise the circuit board and to momentarily open the solenoid valve enclosed in a locking metal

cover. The dispenser is attached and secured onto an aerosol can, which contains the insecticide chemicals, a pressuring gas, synergist and solvents. Once set it will repeat the spray sequence automatically.

Preferably the device will enable fluids such as insecticides or insect repellents dispersed in a suitable solvent and the gas propellant to be dispensed as a spray or mist in a controlled and intermittent flow.

The invention consists of the foregoing and also envisages constructions of which the following gives examples. One preferred form of the present dimension is described in the attached drawings in which:

Referring to Figure 1, fluid dispenser generally referenced (A) is fitted to the aerosol can (B). The dispenser comprises an outer housing (C) which has an aperture (D) through which the spray nozzle (E) projects for dispensing the chemicals. An activation switch (F) is provided to switch the electronic printed circuit board (J), which operates the dispenser as required. The dispenser has an electric solenoid valve (G) which is enclosed by a locking metal cover, which that is powered by a small battery (H).

Figure 2 is a front elevation in partial cross-section of the dispenser solenoid valve (G). This solenoid valve consists of several parts including a plastic bobbin (U) which is wound with insulated electrical wire (N), through which an armature (M) is able to move when a magnetic flux is generated within this bobbin when an electrical current is passed through it. When this occurs the valve opens momentarily and the pressurised aerosol fluid is able to pass through it to the atmosphere through the valve seat (S). When the electrical current is stopped the armature is returned to the closed position by the spring (O). The solenoid is enclosed in a metal cover consisting of two parts, these being an upper part (P) and a lower part (Q). This metal cover forms an integral part of the solenoid magnetic flux, and by locking the two parts (P) and (Q) together using a hook (V) on part (P) which clips into a matching slot on the part (Q). These stop the two parts (P) and (Q) separating due to softening of the plastic holding bracket (R) and increased gas pressure inside the solenoid. The increased gas pressure is a result of temperature increases in the aerosol can. If the two metal parts (P) and (Q) separate and do not touch the magnetic flux deteriorates and if the separation is too great the solenoid will not operate, and the dispenser will not discharge. The metal part (Q) has a fitting (J) which connects to the separate aerosol can (A) and through which the fluids can travel into the solenoid upon electrical activation of the valve mechanism.

The invention provides the user with a number of benefits which may independent of each other, or concurrent, as follows:

- (a) The device will spray the aerosol fluids in a fine mist into the air irrespective of the temperature in which it is placed.
- (b) The dispenser can be fitted to an unlimited range of pressurised aerosol can sizes. This enables one dispenser to be used for a number of different purposes.
- (c) The invention will be automatic without the need for intervention once switched on.

Where in the foregoing description reference has been made to specific components or integers of the invention having known equivalents then such equivalents are herein incorporated as if individually stated.

Although this invention has been described by way of example and with reference to possible embodiments thereof it is to be understood that modifications or improvements may be made to it without departing from the scope or spirit of the invention.

For and on behalf of IPTECH LIMITED



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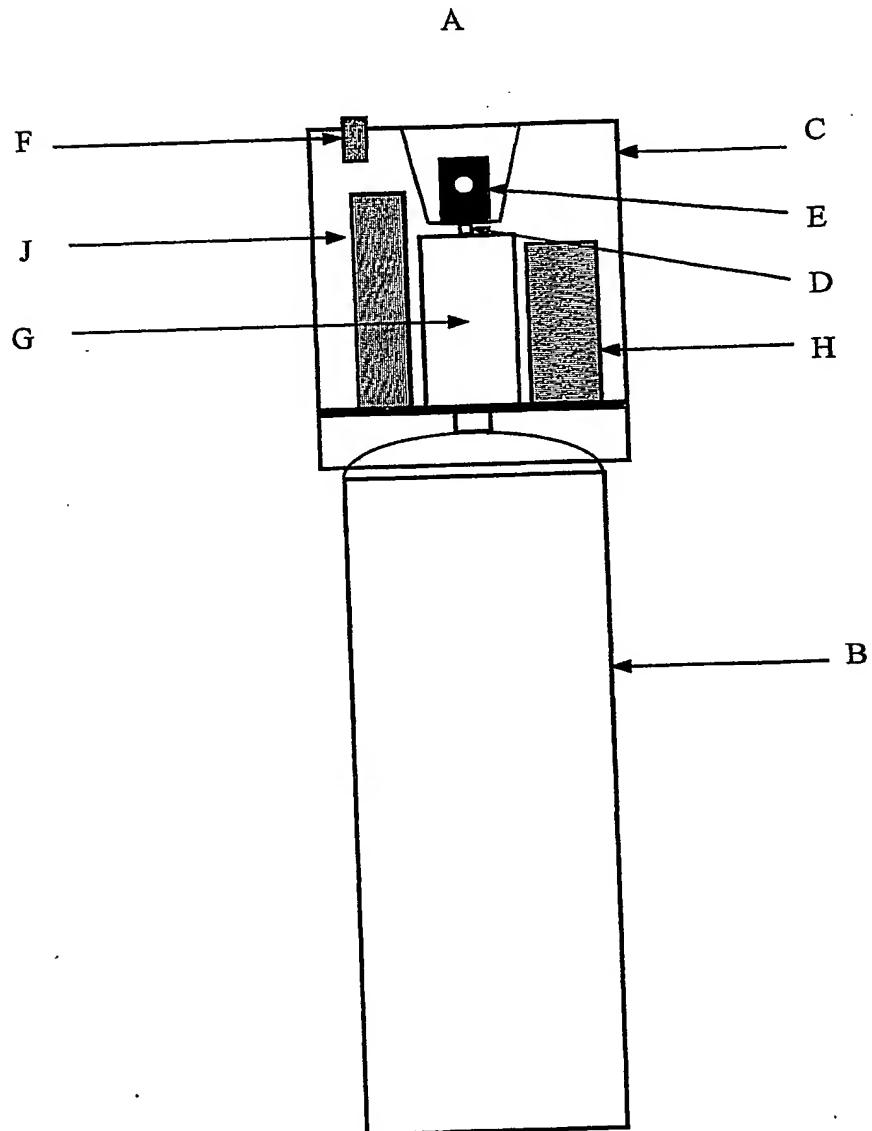
N. McLisky,

Director

Date 30 May 2002

HIGH TEMPERATURE AUTOMATIC DISPENSER

FIGURE 1.



HIGH TEMPERATURE AUTOMATIC DISPENSER

FIGURE 2

